

Remedial Action Contract

U.S. EPA Contract No.: EP-W-09-002

Remedial Action - Phase III (Southern Extraction Wells Installation)

Work Assignment No:	023-RARA-02PE
	Old Roosevelt Field Contaminated
	Groundwater Area Site
EPA Remedial Project Manager:	Sherrel Henry
CDM Smith Site Manager:	Thomas Mathew, P.E.

Prepared for:
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

Prepared by:
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Bi-Weekly Progress Report No. 8

Phase III - Southern Extraction Well Installation

1.0 Introduction

Pursuant of the Work Assignment Form (WAF) Statement of Work (SOW), for Region 2 Contract EP-W-09-002 Work Assignment 023-RARA-02PE, CDM Federal Programs Corporation (CDM Smith) is performing the Phase III (Southern Extraction Well Installation) Remedial Action (RA) at the Old Roosevelt Contaminated Groundwater Area Site, Garden City, New York. The Bi-Weekly Progress Report is intended to partially fulfill the requirements specified under WAF SOW for this assignment. The Phase III work was completed on April 4, 2013 and this Bi-Weekly report is prepared for the work performed from March 11, 2013 to April 4, 2013.

The primary responsibility of CDM Smith personnel was to conduct the quarterly sampling event, oversee investigation derived waste (IDW) handling and supervise the gravel roadway completion.

The work completed during this reporting period includes: investigation derived waste (IDW) handling, the 1st quarter groundwater sampling event, including a round of water level measurements, and gravel roadway completion. This work is summarized in further detail below. A list of the supporting documentation attached with this bi-weekly progress report is as follows:

- Attachment 1 - CDM's Daily Status Report
- Attachment 2 - CDM's Field Log Book notes
- Attachment 3 - Water Level Measurement Data Sheets
- Attachment 4 - Water Level Measurement Table
- Attachment 5 - Groundwater Sampling Data Sheets
- Attachment 6 - Chain-of-Custody Documents
- Attachment 7 - Photographic Log

2.0 Personnel On-Site

The following personnel were on site during this reporting period:

CDM Smith - Contractor

Mike Ehnot	Project Geologist
Ali Rahmani	Engineer
Jessica Bennett	Groundwater Sampling Data Manager

Earth Data Northeast-Westbay Well Sampling Subcontractor

Trevor McMullen

Seacoast Environmental Services-Investigation Derived Waste Subcontractor

Tank Cleaning Crew

Uni-Tech Drilling Company (UTD)-Gravel Roadway Construction

AGL Contracting Crew

3.0 Summary of Work Performed

The following is a brief summary of the field activities performed during this reporting period (refer to Attachment 1 through Attachment 7 for the Daily Status Reports, field logbook notes,

water level data sheets, water level measurement table, groundwater sampling data sheets, chain-of-custody records and photographic log, respectively):

- Investigation Derived Waste (IDW) Handling
 - Sludge IDW Handling
 - Seacoast removed the sludge IDW inside the five water IDW tanks using a vacuum truck and tanker truck, on March 12, 2013 and March 18, 2013. Approximately 6,866 gallons of sludge IDW was transported to ERC in Lancaster, PA, for disposal.
 - Water IDW Tank Cleaning
 - Seacoast washed the interior of the water IDW tanks, prior to demobilization.
 - Tank Removal
 - Seacoast removed the water IDW tanks from the premises on March 26, 2013 and March 28, 2013.
- 1st Quarter Groundwater Sampling Event
 - Water Level Measurements
 - CDM obtained water level measurements from 12 Westbay wells (SVP-1 through SVP-11, SVP-14), using Westbay equipment, and 8 conventional wells (GWX-10019, GWX-10020, MW-1I, MW-1S, MW-2I, MW-2S, MW-3I and MW-3S), on March 28, 2013.
 - Groundwater Sample Collection
 - CDM collected a total of 17 groundwater samples, including quality assurance/quality control (QA/QC) samples, for volatile organic compound (VOC) analysis on March 27-28, 2013. Groundwater samples were shipped to DESA laboratory via overnight courier service.
 - Groundwater samples were obtained from multiple ports at 2 Westbay wells (SVP-4 and SVP-10) and 3 conventional wells (GWX-10019, MW-1I and MW-1S), using Westbay sampling equipment and low flow sampling techniques, respectively.
 - For QA/QC purposes, a total of 1 duplicate samples plus 2 trip blanks and 2 field blanks were collected. A trip blank and field blank sample were obtained for each day of sample collection.
- Extraction Well Area Restoration Gravel Roadway Completion
 - Gravel Road and Extraction Well Pad Area Construction
 - The UTD subcontractor constructed 15 feet wide access road from FedEx entrance to the extraction wells and 25 feet by 50 feet pad area around extraction wells using 1 to 1-1/2 inch stone (coarse aggregate #2). The subgrade was compacted before placement of coarse aggregate.
 - Topsoil and Seeding
 - Temporary gravel road and extraction well pad area outside the newly constructed access road and pad area, as described above, was removed by the UTD subcontractor. All the recycled concrete aggregate (RCA) and geotechnical fabric at specified locations adjacent to the roadway and the southern extraction well pad were removed. Topsoil was added, as needed, and was graded and raked to prepare for seeding.

- Health and Safety
 - CDM Smith conducted a daily Health and Safety meeting at the onset of each day.

4.0 Problems/Corrective Action

- On March 12, 2013, Seacoast could not remove the sludge IDW inside three water IDW tanks because it would clog the tanker truck. Seacoast returned with a vacuum truck to remove the sludge IDW on March 18, 2013.
- Seacoast could not remove the water IDW tanks on March 26, 2013, due to soft ground caused by rain. The truck became stuck in the mud and had to be towed out. On March 28, 2013, Seacoast returned to the site for tank removal.

5.0 Deviations

None noted for this period.

6.0 Conclusions

All RA construction work was completed in general accordance with RA Subcontract Documents and approved construction submittals.

ATTACHMENT 1
DAILY STATUS REPORTS

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 3-12-13

Day: 76 (Tuesday)

WEATHER: Raining & Cold

TEMP: 35/40

WIND: _____

Demobilization			
PERSONNEL ONSITE			
CDM Smith: Mike Ehnot			
Uni-Tech: Butch Hitzelberger (Driller); Brad Barnes (Helper)			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
7:00	Tank Cleaning Crew	Seacoast	Clean out Alder tanks
EQUIPMENT IN USE:			
Alder Tank #A1241 @ Staging Area (November 30, 2012-Present) [~2,400 gallons]			
Alder Tank #A2122 @ Staging Area (February 18, 2013-Present) [~254 gallons]			
Alder Tank #A2043 @ Staging Area (February 18, 2013-Present) [~254 gallons]			
Alder Tank #A2878 @ Staging Area (February 20, 2013-Present) [Empty]			
Alder Tank #A2031 @ Treatment Building (February 18, 2013-Present) [Empty]			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
<p>-UTD disassembles fencing, loads equipment onto support truck and transports equipment offsite. Additionally, the rental company removes the backhoe from the premises.</p> <p>--Seacoast pumps sludge IDW from Alder Tank #2878 and Alder Tank #2031 then cleans out and washes tank interiors. Sludge IDW and rinsate water are pumped into a tanker truck. Subsequently, Seacoast transports approximately 2300 gallons of sludge IDW to Environmental Recovery Corporation of PA for disposal.</p>			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: Distractions			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			
<p>Sludge IDW inside Alder Tank #1241, Alder Tank #2122 and Alder Tank #2043 could not be removed because the tank bottoms are dry sand. The sand could not be placed into the tanker truck. Consequently, the contents of these Alder tanks were not removed and their tank cleaning was postponed. Therefore, Seacoast will mobilize and utilize a vacuum truck to pump out the sludge IDW from the Alder tanks next week then proceed with tank cleaning.</p>			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:
COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:

By: Mike Ehnot

Title: Geologist

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 3-18-13

Day: 77 (Monday)

WEATHER: Raining & Cold

TEMP: 35/40

WIND: _____

Demobilization			
PERSONNEL ONSITE			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
7:00	Tank Cleaning Crew	Seacoast	Clean out Alder tanks
EQUIPMENT IN USE:			
Adler Tank #A1241 @ Staging Area (November 30, 2012-Present) [Empty]			
Adler Tank #A2122 @ Staging Area (February 18, 2013-Present) [Empty]			
Adler Tank #A2043 @ Staging Area (February 18, 2013-Present) [Empty]			
Adler Tank #A2878 @ Staging Area (February 20, 2013-Present) [Empty]			
Adler Tank #A2031 @ Treatment Building (February 18, 2013-Present) [Empty]			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
--Seacoast pumps sludge IDW from Alder Tank #1241, Adler Tank #2122 and Adler Tank #2043 then cleans out and washes tank interiors. Sludge IDW and rinsate water are pumped into a tanker truck. Subsequently, Seacoast transports approximately 4,638 gallons of sludge IDW to Environmental Recovery Corporation of PA for disposal.			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: NA			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			
GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS: Seacoast will remove the five Adler tanks from the premises in the near future.

By: Mike Ehnot

Title: Geologist

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 3-27-13

Day: 78 (Wednesday)

WEATHER: Sunny & Mild

TEMP: 35/50

WIND: _____

1 st Quarter Groundwater Sampling Event			
PERSONNEL ONSITE			
CDM Smith: Mike Ehnot, Jessica Bennett			
Earth Data: Trevor McMullen			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
EQUIPMENT IN USE:			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
-CDM Smith conducts the 1st Quarter Groundwater Sampling Event 2013 with assistance from Earth Data. Groundwater samples are collected at GWX-10019, via low flow sampling methods, and at SVP-4 and SVP-10 using Westbay well sampling equipment. -A total of 17 groundwater samples were shipped via FEDEX overnight courier to DESA laboratory for volatile organic compound (VOC) analysis.			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: Route to Hospital			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			
GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:			
COMMUNICATION WITH CONTRACTOR STAFF:			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:
Seacoast removed Adler Tank #1241 on March 25, 2013; however, the truck got stuck in the muddy soft ground due to significant rainfall and had to be towed out. Therefore, the remaining Adler tanks could not be removed from the premises due to the muddy conditions. Seacoast re-scheduled Adler tank removal for March 28, 2013.

By: Mike Ehnot

Title: Geologist

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 3-28-13

Day: 79 (Thursday)

WEATHER: Sunny & Mild

TEMP: 35/50

WIND: _____

1 st Quarter Groundwater Sampling Event/Demobilization			
PERSONNEL ONSITE			
CDM Smith: Mike Ehnott, Jessica Bennett, Ali Rahmani			
Earth Data: Trevor McMullen			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Re-configure & erect gravel roadway
EQUIPMENT IN USE:			
Cat Model 966G Loader (5.5 cy)			
Takeuch Model TL 240 Skid Steer Loader (1.5 cy)			
Dynapac Compactor (5 tons)			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
<p>-Seacoast removes empty Adler Tank #A2122, Tank #A2043 and Tank #A2878 from the southern extraction well location and Tank #2031 from the treatment building.</p> <p>-The UTD road building subcontractor removes the recycled concrete aggregate (RCA) and geotechnical fabric at specified locations; places topsoil along the access roadway and well pad; grades the access road with existing RCA; and compacts the roadway. CDM Smith supervises the gravel roadway construction activities.</p> <p>-CDM Smith conducts the 1st Quarter Groundwater Sampling Event 2013 with assistance from Earth Data. Groundwater samples are collected at MW-1I and MW-1S, via low flow sampling methods.</p> <p>-A total of 4 groundwater samples were shipped via FEDEX overnight courier to DESA laboratory for volatile organic compound (VOC) analysis.</p> <p>-CDM Smith performs a round of water level data collection at 20 wells, including 12 Westbay wells and 8 conventional wells.</p>			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: Lift with Legs			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:
COMMUNICATION WITH CONTRACTOR STAFF:
MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:

By: Mike Ehnot

Title: Geologist

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 3-29-13

Day: 80 (Friday)

WEATHER: Sunny & Mild

TEMP: 35/50

WIND: _____

1 st Quarter Groundwater Sampling Event/Gravel Roadway Construction			
PERSONNEL ONSITE			
CDM Smith: Mike Ehnott, Jessica Bennett, Ali Rahmani			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Re-configure & erect gravel roadway
EQUIPMENT IN USE:			
Cat Model 966G Loader (5.5 cy)			
Takeuch Model TL 240 Skid Steer Loader (1.5 cy)			
Dynapac Compactor (5 tons)			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
-The UTD road building subcontractor completes the gravel roadway construction. CDM Smith supervises the gravel roadway construction activities.			
-CDM Smith conducts an equipment inventory and transports equipment to the CDM Smith Edison warehouse.			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: NA			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			
GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:			
COMMUNICATION WITH CONTRACTOR STAFF:			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

MEETING:
ADDITIONAL ACTIVITIES AND REMARKS:

By: Mike Ehnot

Title: Geologist

Daily Status Report

PROJECT: **Old Roosevelt Field Site**
Remedial Action

Date: 4-4-13

Day: 81 (Thursday)

WEATHER: Sunny & Mild

TEMP: 35/50

WIND: _____

Gravel Roadway Construction			
PERSONNEL ONSITE			
CDM Smith: Mike Ehnot			
VISITORS			
TIME	NAME	REPRESENTING	REMARKS
7:00	Road Building Crew	UTD	Place and grade topsoil
EQUIPMENT IN USE:			
Takeuchi Model TL 240 Skid Steer Loader (1.5 cy)			
CONSTRUCTION ACTIVITIES COMPLETED AND/OR IN PROGRESS:			
-The UTD road building subcontractor places topsoil adjacent to the gravel roadway. The topsoil is graded and raked to prepare for seeding for site restoration. CDM Smith supervises the gravel roadway activities.			
WORK BEING INSPECTED:			
NA			
JOB SAFETY. INDICATE WHAT WAS CHECKED, RESULTS, AND CORRECTIVE ACTIONS TAKEN:			
Daily tailgate Health & Safety meeting Topic: NA			
TESTING PERFORMED:			
PROBLEM/DELAYS/CORRECTIVE ACTION TO BE TAKEN:			
GREEN REMEDIATION PRACTICES IMPLEMENTED AND QUANTITIES TRACKED:			
COMMUNICATION WITH CONTRACTOR STAFF:			
MEETING:			

Daily Status Report (Continued)

PROJECT: Old Roosevelt Field Site

ADDITIONAL ACTIVITIES AND REMARKS:

By: Mike Ehnot

Title: Geologist

ATTACHMENT 2
FIELD LOGBOOK NOTES

MARCH 12 2013

TOW HANDLING

WEATHERS DRAWING & COLD

720 I AM ON SITE DELAYED BY ACCIDENT

LTA DRIVERS ON SITE?

BUTEN HIT REFRIGER

BRAS BARBERS

SEACAST, TANK CLEANING

CREW PLUS TWO 5,500-GAL

TANKERS/DRIVERS.

720 HOS TOPIC: INSTRUCTIONS

DRIVERS ARE WRAPPING UP

DEMOBILIZING EQUIPMENT FROM THE

SIDE. THE FENCING HAS BEEN

DISASSEMBLED & REMOVED FROM

THE PREMISES. THE BOXES

IS DONE. ALL EQUIPMENT HAS

BEEN LOADED UP & DEMOLISHED

ON THE SIDE. ALL VEHICLES ARE

ON SITE EXCEPT FOR THE BULKHEAD

& THE REMAINING WILL PICK IT

UP TODAY.

MEANWHILE

LTD IS ALLOWING SEACAST TO

USE BACKFLOW PREVENTER AGAIN

INDEPENDENT AS APTA & LAYERS HAVE FOR

WATER ACCIDENT.

WATER REPORT 3/12/13

(124)

TOW HANDLING

730 SEACAST, WEATHERS ARE THAT

THEY CAN ONLY CLEW OUT FROM

ASBESTOS #2073 BELONGS

TO COARSE TANKER (LTD) AT

BOTTOM OF ASBESTOS #1241 #2122

& #2073 CANNOT BE CLEWED

WHO ~~THINKS~~ ^{THINKS} ~~THE~~ ^{THE} TANKERS.

THE MATERIAL IS TOO COARSE &

WILL NOT BE ABLE TO BE

EASILY CLEWED FROM THE

TANKERS IF IT IS PULPED AHEAD.

THESE ARE ^{THESE ARE} ~~THESE ARE~~ ^{THESE ARE} ~~THESE ARE~~

THE ~~THESE ARE~~ ^{THESE ARE} ~~THESE ARE~~ ^{THESE ARE} ~~THESE ARE~~

WATER TOW FROM ASBESTOS #2073

TO TANKER (LTD) WITH IT

CAN OR WATER TOW FROM

#2073 #2122 & #2043

1000 GIVE SPOONER (SEACAST) HAS

BEEN CONTACTED ABOUT ABOVE

SCENARIO & WILL MAKE

ARRANGEMENTS TO GET THE TOW

TO PULL OUT TOWAGE TOW

AT TOWAGE SITE

1100 I CONTACTED AL. BERNARD (COW

& LET HIM KNOW TODAY'S EVENT

WATER 3/12/13

(125)

LOW HANDLES
1100 SPAGHETTI + I GO TO
TREATMENT Bldg.]

SEARCHING IN FORK ME TWO
THEY CAN PUMP SWAGE FOR
FIRST ASSESSMENT #2031 TO
TANKER + CLEAN TANK
1140 ASSESS TANK #2878 +
TANK #2031 HAVE BEEN
OUTLINED + CLEANED.

TANKER HAS ~ 2200 GALS
OF SWAGE DOWNLOADED
1200 SEARCHED LKS SITE;

TANKER DEMPORED
SWAGE TANK TO BE IN
LANDFILL BY CAR JACKSON
1330 G. SWEET TALKS ME HE
WILL TRY TO GET THE

ASPHALT TANKS REMOVED ASAP
1500 J. LK. SITE OF PINE EARL
1530 G. SWEET TALKS ME
TO SAY HE'LL HAVE THE TANK
EMPTY NEXT WEEK FOR
1630 I DROP THE PINE EARL
AT CAMP GEORGE OFF FOR Bldg

DAILY SUMMARY

LOW HANDLES

20 TANKS CLEAN
~ 2200 GALS SWAGE DOWNLOADED

MAR 3/11/13

(120)

MARCH 27, 2013

GROUNDWATER SAMPLING EVENT
1ST QUARTER 2013

WEATHER: SUNNY + MILD
700 I ARR ON SITE

JESSICA BENNETT (CON) ON SITE
705 WE ARRANGE EQUIPMENT +
SET-UP TO DO G.W. SAMPLING

I CALIBRATE P/O PRESSURE
METER, YES WE METER

8:15 COLLECT TRIP BLANK
8:30 2032713 INTO (3) 40ML VIALS
FOR VOC ANALYSIS USING
ULTRA PURE WATER

NOTE: ALL SAMPLES PLACED ON
ICE UPON COLLECTION

8:30 SECOND 2" SUB PUMP
USING NON-PHOSPHATE

DETERGENT WASH FOLLOWS BY
DI WATER RINSE

9:00 COLLECT FIELD BLANK
FB032713 BY POURING
ULTRA PURE WATER OVER
SUB PUMP + COLLECTING
INTO (3) 40ML VIALS FOR
VOC ANALYSIS.

VOC ANALYSIS.

MIKE ENO 3/29/13 (123)

M. M. M. M.

GW SAMPLING 1ST QTR 2013

915 TRENDAR McFILLER (GARDEN) 1245 COLLECT GW SAMPLE

930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

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930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

930 AM 9. EARTH DATA HOB TO SUR-4 TO COLLECT GW SAMPLE

GW SAMPLING 1ST QTR 2013

1245 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

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1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

1300 COLLECT GW SAMPLE

GW SAMPLING 1ST QTR

FINAL WL PARAMETERS WERE

RECORDED ON DATA SHEET

WELL	PH	TR	SC	AD	OR	TRBS
SUP-4-2	5.48	14.73	0.372	5.76	218.9	1.57
-3	5.56	14.67	0.422	14.70	181.0	1.04
-4	5.63	14.88	0.427	10.21	181.4	0.47
-5	5.66	15.10	0.417	10.63	199.8	1.30
-6	5.65	15.66	0.452	10.52	184.5	39.7
-7	5.76	15.52	0.473	11.01	217.1	1.19
SUP-10-1	6.36	19.32	0.260	8.09	184.0	0.22
2	5.34	17.36	0.288	10.67	245.8	0.58
3	5.08	15.91	0.274	10.85	247.5	0.25
4	5.21	16.85	0.362	10.46	252.5	0.19
5	5.08	15.77	0.371	10.24	287.1	0.29
6	4.35	16.65	0.338	10.09	251.6	0.20
7	5.01	17.15	0.814	11.23	237.3	0.51

GUX-10019 7.55 15.22 0.634 0.44 - 104.2 4.94

1600 CAN PREPARES GW

SAMPLES FOR SHIPPING

SECOND SUB PUMP VS210

LITERNOX SERVIENT WASH 50 HOURS

BY TAP WATER RUNSE, BORENA

FOR TOMORROW'S SAMPLING

ROUND OF WLC MEASUREMENTS

NO SERVICING TO EMPLOYEES 44 POWER TRUCKS

3/27/13

24

130

GW SAMPLING 1ST QTR

18.5 CAN SETS UP DEATH CAGES

AT SUP-5, MW-2I/AS

SUP-4 & SUP-9 AFTER

EMPLOYEES LEAVE BREAKING COTS

18.5 CAN SHIPS 1 COWLER &

WATER SAMPLES TO DECA LAB

IN FESEX ANALIS #801390789914

FOR 17 SAMPLES FOR WTC ANALYSIS:

TB 0327-13 TRIP BLANK

FB 0327-13 FESX BLANK

GUX-10019/RATE 1-2013

SUP-4-2/RATE 1-2013

SUP-4-3/RATE 1-2013

SUP-4-4/RATE 1-2013

SUP-4-5/RATE 1-2013

SUP-4-6/RATE 1-2013

SUP-4-7/RATE 1-2013

SUP-104-5/RATE 1-2013 (DATE SUP-4-5)

SUP-10-1/RATE 1-2013

SUP-10-2/RATE 1-2013

SUP-10-3/RATE 1-2013

SUP-10-4/RATE 1-2013

SUP-10-5/RATE 1-2013

SUP-10-6/RATE 1-2013

SUP-10-7/RATE 1-2013

3/27/28

130

MARCH 28, 2013

GROUNDWATER SAMPLING EVENT
1ST DAY 2013

GRAVEL ROADWAY INSTALLATION
WEATHER: SUNNY & WINDY
650 I. ARE UNFROZEN

TELLER BEHIND (CANYON) ON SITE
REMOVE MULCH/CEMENT DIRT AND
700 CON & EARTH DATA LOGS TO
MAY 15 TO BEGIN BORING OF
WASTEWATER LEVEL MEASUREMENT
AT JUP-3 / HASTOPIC: LIFT UP LOGS
MEANWHILE

I GO TO SEW-15/1 I/15 TO OBSERVE
ADLER TANK REMOVAL OF
TANK # 1241, TANK # 2122 & TANK # 2043
NOTE: ADLER TANKS WERE CLEARED
OF 4 INCHES REMOVED ON

MARCH 18, 2013

700 ARE RATIONALE (CON) UNFROZEN

UP ROADWAY CREEK FOR GRAVEL
ROADWAY INSTALLATION &
RE CONFIGURATION AT SEW-15/15
EQUIPMENT: CAT 966 G LOADER (5.5 CY)
TRAKER FL 240 STEEL (1.5 CY)

DYNAMIC COMPACTOR (5 TON)
MILE EPOUT

MARCH 3/28/13

132

GRAVEL ROADWAY & GROUNDWATER 1ST DAY

NOTE: ROADWAY CREW WILL
REMOVE RCA / GROUNDWATER
AT DESIGNATED LOCATIONS; PLACE
TOP SOIL ALONG ACCESS WENT
WENT PAV, AT NEESSES. GRAVE
ACCESS FOR 4 YEN PAV WITH
EXISTING RCA & COMPACT.

830 I. PAV TO MW-1 I. TO

60 LOW FLOW SAMPLE COLLECTION

USING 2" DIA. SUB BUMP

INITIAL DOW: 27.61' (DOW)

850 BEGIN BORING MW-1 I

AT 300 ml/min

930 PAV COLLECT AND SAMPLE

MW-1 I / RATE 1 - 2013

LOW FLOW; FINAL PAV METER

MEASUREMENTS:

PH: 5.29

DO: 2.98 (mg/L)

T: 14.11 °C (°F) 204.2 (°F)

SE: 0.205 (mg/L) / TDS: 0.57 (mg/L)

NOTE: SAMPLES PLACED IN ICE

IN ICE COOLER FOR COLLECTION

NOTE: THE BUNK TO 032813

COLLECTED AT 825

FIELD BUNK 032813

WILLIAMS AT 830, AS BESSIE

MARCH 3/28/13

133

GW Sampling 1st one.

1040 I second SW Camp A
Treatment Bog at Refuge
1030 I HOB to SW-1S to

do low flow sampling, as above.
MW-1S TWTW STD: 27.21' low
1100 BEGIN PUMPING MW-1S

NOTE: DISCHARGE INTO S-CAN

BUCKET, AS BEFORE - RUCKER
BODIES AND GENTLE AT DEER BLAG.

1205 ~~GO~~ COLLECT GW SAMPLE

MW-1S/RATE 1-2013 VIA
LOW FLOW IN PUMP PARAMETER
MEASUREMENTS:

PH: 6.12

DD: 6.03 (gpd)
T: 14.07 (°C) DEP: 141.0 (cm)

SC: 0.233 (m/s/cm) TDS: 9.95 (mg)

[NOTE: MW-1S DO NOT HAVE

TDS < 5 MV HYPHENATING]
1245 CAN PREPARE GW SAMPLES
FOR SHIPPING

1300 CAN & EARTH DATA COMPLETES

WB WL MEASUREMENTS OF
DESIGNATES POINT AT SW-3,
SW 2, SW 4, SW 9, SW 5,
SW 10, SW 11, SW 6, SW 7,
SW 8, SW 11 & SW 14

3/26/13

1300 EARTH DATA LOW SITE
MEASUREMENTS

CAN HOB TO DO PUMPING
WL MEASUREMENTS & DOWNLOG
PRESSURE LOG DATA OF MW-1S:
TIME WHEN IS STD/AS TX

1548 GWX-10019 28.50

1559 GWX-10020 24.31

1535 MW-1E 27.97

1537 MW-1S 28.14

1422 MW-2E 28.97

1440 MW-2S 28.41

1345 MW-3E 22.00

1342 MW-3S 21.80

ALSO MEASURED DIFFERENCE
FROM GROUND SURFACE TO TOP OF
WB PVC AT 3 WELLS:

SW-9 0.51'

SW-10 0.51'

SW-11 0.34'

1600 CAN PREPARE C-O-C &

PACKS ORDER FOR SHIPPING,

CAN TAKE INVENTORY OF

EQUIPMENT / SUPPLIES AT DEER

BLAG.

3/26/13

135

1715 AM RETURN W. SIDE.
 CAR DOWNLOAN- KORE,
 DATA INTO LAPTOP. COPIED
 1800 AM W. SIDE & DELIVER
 COPIES FOR SHIPMENT TO DESA CR.
 VA GENEX AIRBILL #001390789877
 FOR 4 SAMPLES FOR VOC ANALYSIS:
 TB 032813
 GB 032813
 MW-12/RAD1-2013
 MW-15/RAD1-2013
 NOTES: ROADWAY WILL BE
 COMPLETED ON MARCH 28, 2013

~~March 3/28/13~~

(136)

MARCH 29, 2013
 GROUNDWATER SKEWING EVENT
 1ST ONE 2013
 GRAVEL ROADWAY INSTALLATION
 WEATHER: PACEY SUNNY TO SUNNY & WINDY
 700 I AM OFF DUTY; LOTS
 ONE RETURN EQUIPMENT & CAR
 EQUIPMENT INTO VEHICLE
 730 I W. SIDE TO GO TO CASH
 WAREHOUSE TO WILLOW EQUIPMENT
 MECHANICAL
 ALL RATTAN (CAR) DRIVE TO
 SUPERVISE GRAVEL ROADWAY
 INSTALLATION. SOME EQUIP. AS
 YESTERDAY; CAR CHARTER SCHEDULE

~~March 3/29/13~~

(137)

APRIL 4, 2013

GRAVEL ROADWAY

WEATHER: SUNNY & WINDY
7:30 IT RAIN DOWNTOWN - DELIVERIES ONE
TO TRAFFIC; AGC CONTRACTORS

ROADWAY CEN. LC

SPREADING TOPSOIL USING A

TAKESUCHI BORCAT TO

SPREAD TOPSOIL ADJACENT

TO GRAVEL ROADWAY

(2) LOADS OF TOPSOIL

WERE DELIVERED AREA

835. THIRD LOAD OF TOPSOIL

DELIVERED TO SITE;

TOPSOIL PLACES ADJACENT

TO NORTH SIDE OF

ROADWAY.

900 FOURTH LOAD OF TOPSOIL

DELIVERED TO SITE; TOPSOIL

PLACES ADJACENT TO SOUTH SIDE

OF ROADWAY

915 AGC SPREADS TOPSOIL

USING BORCAT; LABORER

MAKES SPREADING TOPSOIL

PREP FOR SEEDING

14⁴⁵ ALL W. SITE.

MIKE ERNOT

Wsp/mt 2/4/13

(138)

(139)

ATTACHMENT 3
WATER LEVEL MEASUREMENT DATA SHEETS



Westbay Piezometric Pressures/Levels

Probe Type:	EMS 3555	Date:	3/28/2013
Serial No.:	3555	Client:	ERA
Probe Range:	0-500	Job No.:	
Westbay Casing Type:	MP38	Location:	ORF
		Weather:	46°F partly cloudy
		Operator:	J. Bennett T. McMullen (EWN)

Borehole angle: 90°

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: 14.58 Finish: 14.60
 P_{atm} 14.59 psi
 1241 16.46°C
 1241 16.01°C

[illegible]

P_{atm} = atmospheric pressure

Dz = piezometric level in zone

 $w = 0.433 \text{ ns/m} \text{ (} 1.422 \text{ ps/m) of H}_2\text{O}$

Notes:

D_0 = true depth of measurement port

H = pressure head of water in zone



Westbay Piezometric Pressures/Levels

5VP-2

Probe Type: EMS 3555

Serial No.: 3555

Probe Range: 0 - 500

Westbay Casing Type: **MP38**

1000

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

Ambient Reading (P_{amb}) (pressure, temperature, time)

Start:	14.58	Finish:	14.60
--------	-------	---------	-------

0743 0811 1459 1571 1801 2001 2201 2401 2601 2801 3001 3201 3401 3601 3801 4001 4201 4401 4601 4801 5001 5201 5401 5601 5801 6001 6201 6401 6601 6801 7001 7201 7401 7601 7801 8001 8201 8401 8601 8801 9001 9201 9401 9601 9801 1000

[illegible]

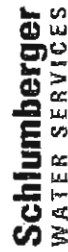
Notes:

 $w = 0.433 \text{ psf ft (1.422 psf m)} \text{ of H}_2\text{O}$

Dz = plezometric level in zone

Dz = piezometric level in zone

P_{atm} = atmospheric pressure



Westbay Piezometric Pressures/Levels

Probe Type:	EMC 3555
Serial No.:	3555
Probe Range:	0-500
Westbay Casing Type:	MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly cloudy
Operator: J. Bonnet H. T. McMillan (60)

Ambient Reading (P_{amb}) (pressure, temperature, time)
 Start: 14.55 Finish: 14.59 15.10
 P_{amb} 14.57 psi
0720
6.58°C
0740

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

- w = 0.433 psi/ft (1.422psl/m) of H₂O
- H = pressure head of water in zone
- Op = true depth of measurement port
- Dz = piezometric level in zone
- P_{atm} = atmospheric pressure



Probe Type: EMS 3555

Serial No.: 3555

Probe Range: 0-500

Westbay Casting Type: MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly cloudy
Operator: J Bennett T. McMullin

Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: 14.57 Finish: 14.57
0915 4.83°C 0935 14.72
 P_{atm} 14.57 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

$w = 0.433 \text{ psi/ft (1.422psi/m) of H}_2\text{O}$	$Dz = \text{piezometric level in zone}$	$P_{\text{atm}} = \text{atmospheric pressure}$
$H = \text{pressure head of water in zone}$	$Dp = \text{true depth of measurement port}$	



Westbay Piezometric Pressures/Levels

Probe Type:	EMS 3555
Serial No.:	3555
Probe Range:	0 - 500
Westbay Casing Type:	MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly cloudy
Operator: J. Bennett T. McWhorter

1011 Ambient Reading (P_{atm}) (pressure, temperature, time) 16.8°C
Start: 14.56
Finish: 14.60
 P_{atm} 14.53 psi
16.8°C

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

$w = 0.433 \text{ psi/ft (1.422 psfm) of H}_2\text{O}$	$P_{\text{atm}} = \text{atmospheric pressure}$
$H = \text{pressure head of water in zone}$	$Dz = \text{piezometric level in zone}$
$Dp = \text{true depth of measurement port}$	



Westbay Piezometric Pressures/Levels

Field Data and Calculation Sheet

Well No.: SVP-6
Datum: _____
Elev. G.S.: _____
Height of Westbay above G.S.: _____
Elev. top of Westbay Casing: _____
Reference Elevation: _____
Borehole angle: 90°

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F part
Operator: J Bennett, T

Probe Type:	ENS 3555
Serial No.:	3555
Probe Range:	0-500
Westbay Casing Type:	MP38

Borehole angle: 90°

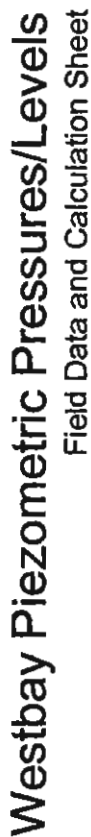
Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: 14.60 Finish: 14.62
 1150 P_{atm} 14.61 psi
 13.52

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

- $w = 0.433 \text{ psi/ft (1.422 psi/m) of H}_2\text{O}$
- $Dz = \text{piezometric level in zone}$
- $Dp = \text{true depth of measurement port}$
- $H = \text{pressure head of water in zone}$
- $P_{atm} = \text{atmospheric pressure}$



Probe Type:	EMS 3555
Serial No.:	3555
Probe Range:	0-500
Westbay Casing Type:	MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly cloudy
Operator: J. Bennett T. McMullan (EPA)

Ambient Reading (P_{amb}) (pressure, temperature, time) 14.87°C
 Start: 14.37 Finish: 14.61
1316 14.88°C
 P_{amb} 14.59 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

- $w = 0.433 \text{ psi/ft (1.422 psi/m) of H}_2\text{O}$
- $H = \text{pressure head of water in zone}$
- $D_p = \text{true depth of measurement port}$
- $D_z = \text{piezometric level in zone}$
- $P_{\text{atm}} = \text{atmospheric pressure}$



Westbay Piezometric Pressures/Levels

Probe Type: EMJ 3555
 Serial No.: 3555
 Probe Range: 0-500
 Westbray Casing Type: MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly
Operator: J. Bennett

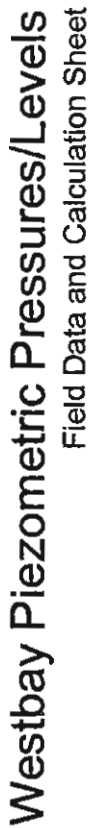
Ambient Reading (P_{amb}) (pressure, temperature, time)
 Start: 14:59 Finish: 14:61
1134 14.83°C
15.42°C 14.60 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

$w = 0.433 \text{ psi/ft (1.422psi/m) of H}_2\text{O}$	Dz = piezometric level in zone	P _{atm} = atmospheric pressure
H = pressure head of water in zone	Dp = true depth of measurement point	



Probe Type:	EMS 3555
Serial No.:	3555
Probe Range:	0-500
Westbay Casting Type:	MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly cloudy
Operator: J. Bennett T. McMillan (EPA)

Ambient Reading (P_{amb}) (pressure, temperature, time) 15.36

Start: 14.57 Finish: 14.57

0845 P_{amb} 14.57 psi
16.46°C

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

- $w = 0.433 \text{ psi/ft (1.422psf/m) of H}_2\text{O}$
- Dz = piezometric level in zone
- Dp = true depth of measurement point
- H = pressure head of water in zone
- P_{atm} = atmospheric pressure



Westbay Piezometric Pressures/Levels

Well No.: SUP-10

Datum:

Elev. G.S.:

Height of Westbay above G.S.:

Elev. top of Westbay Casing:

Reference Elevation:

Borehole angle: 10°

Probe Type: EM3 355S
 Serial No.: 355
 Probe Range: 0-500
 Westbay Casing Type: MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: GSF
Weather: 46°F partly cloudy
Operator: J. Pennel + McMiller

Ambient Reading (P_{atm}) (pressure, temperature, time) 16.0°C

Start: 14.56 Finish: 14.58

P_{atm} 14.57 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:
 $w = 0.433 \text{ psi/ft (1.422 psi/m) of H}_2\text{O}$
 $H = \text{pressure head of water in zone}$

Dz = piezometric level in zone
Dp = true depth of measurement port

P_{atm} = atmospheric pressure

Note: transducer installed at this location



Probe Type: EMS 3555
Serial No.: 3565
Probe Range: 0-500
Westbay Casing Type: MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46°F partly
Operator: J. Bennett T.

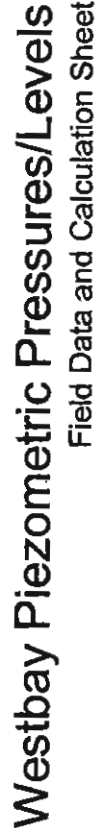
Ambient Reading (P_{atm}) (pressure, temperature, time)
 Start: 14.59 1053 17.11°C
 Finish: 14.59 1457°C
 P_{atm} 14.59 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

- W = 0.433 psi/ft (1.422psi/m) of H₂O
- Dz = piezometric level in zone
- Dp = true depth of measurement port
- H = pressure head of water in zone
- P_{atm} = atmospheric pressure



Probe Type: EMS 3555
Serial No.: 3555
Probe Range: 0-500
Westbay Casing Type: MP38

Date: 3/28/2013
Client: EPA
Job No.:
Location: ORF
Weather: 46° of partial
Operator: J. Bennett

Ambient Reading (P_{amb}) (pressure, temperature, time) 14.69°C
Start: 14.59 Finish: 14.61
1203 P_{amb} 14.600 psi

Note: "Port position" in angled boreholes refer to position along drillhole. True depth (Dp) needs to be calculated using borehole angle and deviation data to calculate zone piezometric level (Dz).

[illegible]

Notes:

$w = 0.433 \text{ psi/ft (1.422 psi/m) of H}_2\text{O}$

H = pressure head of water in zone

D_p = true depth of measurement point

D_z = piezometric level in zone

P_{atm} = atmospheric pressure

Roosevelt Field Superfund Site
Water Level Measurements

Well ID	Date	Time	DTW (feet TOC)	Comments
GWX-10019	9	1548	28.50	measured at TOC (at ground surface)
GWX-10020		1559	24.31	A TIC (at ground surface)
MW-1I		1535	27.97	
MW-1S		1537	28.14	
MW-2I		1422	28.97	
MW-2S		1440	28.41	
MW-3I		1345	22.00	
MW-3S	3/28/13	1342	31.80	

SVR-10 0.51 ft PVC to ground surface
SVR-9 0.51 ft "
SVR-11 0.34 ft "

ATTACHMENT 4
WATER LEVEL MEASUREMENT TABLE

Groundwater Elevation Data: 1st Quarter (March 28, 2013)
Old Roosevelt Field Contaminated Groundwater Site
Garden City, New York

Well ID	Port	Ground Surface Elevation (feet msl)	Measurement Port Depth (feet bgs)	Port Elevation (feet msl)	1st Quarter (March 28, 2013)				
					Atm. Pressure (psi)	Fluid Pressure- Outside Casing (psi)	Pressure Head (feet)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)
SVP-1*	9	86.58	103	-16.42	14.59	49.68	81.04	22.05	64.53
SVP-2	1	88.39	450	-361.61	14.59	196.76	420.72	29.73	58.66
	2	88.39	413	-324.61	14.59	180.79	383.83	29.58	58.81
	3	88.39	373	-284.61	14.59	163.51	343.93	29.44	58.95
	4	88.39	333	-244.61	14.59	146.23	304.02	29.31	59.08
	5	88.39	293	-204.61	14.59	128.93	264.06	29.22	59.17
	6	88.39	253	-164.61	14.59	111.63	224.11	29.13	59.26
	7	88.39	193	-104.61	14.59	85.67	164.16	29.02	59.37
	8	88.39	153	-64.61	14.59	68.40	124.27	28.86	59.53
	9	88.39	103	-14.61	14.59	46.82	74.43	28.65	59.74
	10	88.39	53	35.39	14.59	25.12	24.32	28.71	59.68
SVP-3	1	87.17	450	-362.83	14.57	198.10	423.86	26.60	60.57
	2	87.17	393	-305.83	14.57	173.49	367.02	26.37	60.80
	3	87.17	373	-285.83	14.57	164.85	347.07	26.30	60.87
	4	87.17	293	-205.83	14.57	130.35	267.39	25.90	61.27
	5	87.17	173	-85.83	14.57	78.45	147.53	25.63	61.54
	6	87.17	103	-15.83	14.57	48.18	77.62	25.46	61.71
	7	87.17	53	34.17	14.57	26.51	27.58	25.45	61.72
SVP-4	1	88.85	420	-331.15	14.57	184.21	391.78	28.64	60.21
	2	88.85	400	-311.15	14.57	175.56	371.80	28.60	60.25
	3	88.85	353	-264.15	14.57	155.26	324.92	28.43	60.42
	4	88.85	308	-219.15	14.57	135.80	279.98	28.32	60.53
	5	88.85	288	-199.15	14.57	127.19	260.09	28.19	60.66
	6	88.85	248	-159.15	14.57	109.89	220.14	28.10	60.75
	7	88.85	188	-99.15	14.57	84.00	160.35	27.82	61.03
	8	88.85	148	-59.15	14.57	66.71	120.42	27.71	61.14
	9	88.85	103	-14.15	14.57	47.24	75.45	27.63	61.22
	10	88.85	48	40.85	14.57	23.46	20.53	27.49	61.36
SVP-5	1	85.55	430	-344.45	14.58	189.29	403.49	26.94	58.61
	2	85.55	408	-322.45	14.58	179.53	380.95	27.46	58.09
	3	85.55	358	-272.45	14.58	157.84	330.85	27.50	58.05
	4	85.55	313	-227.45	14.58	138.46	286.10	27.21	58.34
	5	85.55	293	-207.45	14.58	129.90	266.33	26.96	58.59
	6	85.55	253	-167.45	14.58	112.73	226.67	26.57	58.98
	7	85.55	193	-107.45	14.58	87.13	167.55	25.63	59.92
	8	85.55	153	-67.45	14.58	70.00	127.99	25.15	60.40
	9	85.55	98	-12.45	14.58	46.34	73.35	24.73	60.82
	10	85.55	48	37.55	14.58	24.69	23.35	24.68	60.87
SVP-6*	5	60.88	105	-44.12	14.61	55.46	94.34	10.76	50.12
SVP-7*	5	82.58	103	-20.42	14.59	47.44	75.87	27.22	55.36
SVP-8*	5	62.26	103	-40.74	14.60	54.38	91.87	11.23	51.03
SVP-9	1	90.27	482	-391.73	14.57	210.67	452.89	29.60	60.67
	2	90.27	402	-311.73	14.57	176.09	373.03	29.37	60.90
	3	90.27	352	-261.73	14.57	154.49	323.14	29.20	61.07
	4	90.27	307	-216.73	14.57	135.01	278.15	29.14	61.13
	5	90.27	287	-196.73	14.57	126.36	258.18	29.10	61.17
	6	90.27	247	-156.73	14.57	109.04	218.18	29.06	61.21
	7	90.27	187	-96.73	14.57	83.10	158.27	28.90	61.37
	8	90.27	147	-56.73	14.57	65.85	118.43	28.70	61.57
	9	90.27	102	-11.73	14.57	46.40	73.51	28.57	61.70
	10	90.27	47	43.27	14.57	22.57	18.48	28.54	61.73

Groundwater Elevation Data: 1st Quarter (March 28, 2013)
Old Roosevelt Field Contaminated Groundwater Site
Garden City, New York

Well ID	Port	Ground Surface Elevation (feet msl)	Measurement Port Depth (feet bgs)	Port Elevation (feet msl)	1st Quarter (March 28, 2013)				
					Atm. Pressure (psi)	Fluid Pressure- Outside Casing (psi)	Pressure Head (feet)	Depth to Water (feet bgs)	Water Level Elevation (feet msl)
SVP-10	1	87.83	482	-394.17	14.57	210.45	452.38	30.10	57.73
	2	87.83	402	-314.17	14.57	175.08	370.69	31.70	56.13
	3	87.83	352	-264.17	14.57	153.70	321.32	31.03	56.80
	4	87.83	307	-219.17	14.57	134.29	276.49	30.81	57.02
	5	87.83	287	-199.17	14.57	125.60	256.42	30.85	56.98
	6	87.83	247	-159.17	14.57	108.52	216.97	30.26	57.57
	7	87.83	187	-99.17	14.57	82.96	157.94	29.22	58.61
	8	87.83	147	-59.17	14.57	66.07	118.94	28.19	59.64
	9	87.83	102	-14.17	14.57	46.64	74.06	28.01	59.82
	10	87.83	47	40.83	14.57	22.77	18.94	28.08	59.75
SVP-11	1	80.32	482	-401.68	14.59	212.39	456.81	25.68	54.64
	2	80.32	402	-321.68	14.59	177.31	375.80	26.60	53.72
	3	80.32	352	-271.68	14.59	156.07	326.74	25.61	54.71
	4	80.32	307	-226.68	14.59	136.94	282.56	24.74	55.58
	5	80.32	287	-206.68	14.59	128.31	262.63	24.65	55.67
	6	80.32	247	-166.68	14.59	111.08	222.84	24.40	55.92
	7	80.32	187	-106.68	14.59	85.25	163.19	23.99	56.33
	8	80.32	147	-66.68	14.59	68.56	124.64	22.49	57.83
	9	80.32	102	-21.68	14.59	49.04	79.56	22.52	57.80
	10	80.32	47	33.32	14.59	25.19	24.48	22.55	57.77
SVP-14*	9	69.07	100.0	-30.93	14.60	50.76	83.51	16.58	52.49

Notes:

bgs = below ground surface

msl = mean sea level

Atm. = Atmospheric

psi = pounds per square inch

* Only one port was measured for water levels at SVP-1, SVP-6, SVP-7, SVP-8 and SVP-14

No water levels were obtained at SVP-12 and SVP-13

Groundwater Elevation Data: 1st Quarter (March 28, 2013)
Old Roosevelt Field Contaminated Groundwater Site
Garden City, New York

Date:		March 28, 2013		Groundwater
		Elevation		Elevation
<u>Well ID</u>	<u>TIME</u>	<u>TOC (feet MSL)</u>	<u>DTW (ft. TOC)</u>	<u>(feet MSL)</u>
GWX-10019	15:48	85.19	28.50	56.69
GWX-10020	15:59	81.85	24.31	57.54
MW-1I	15:35	86.36	27.97	58.39
MW-1S	15:37	86.11	28.14	57.97
MW-2I	14:22	86.59	28.97	57.62
MW-2S	14:40	87.15	28.41	58.74
MW-3I	13:45	79.09	22.00	57.09
MW-3S	13:42	79.13	21.80	57.33

ATTACHMENT 5
GROUNDWATER SAMPLING DATA SHEETS

Project: ROOSEVELT
Monitoring Well No.: SWP-4
Sampling Zone No(s): 1-10

Project: ROOSEVELT

Monitoring Well No.:

525-24

Sampling Zone No(s):

Date: 3/27/2013

Start Time: 17:08

End Time: 1140

Operators: J. Bennett, T. Müller

[illegible]

Additional Comments: (pH, turbidity, S.C., etc.)

Additional Comments: (pH, turbidity, S.C., etc.)

$$\begin{array}{r}
 1 \\
 2 \\
 \hline
 420
 \end{array}
 \begin{array}{r}
 3 \\
 4 \\
 \hline
 353
 \end{array}
 \begin{array}{r}
 5 \\
 6 \\
 \hline
 288
 \end{array}
 \begin{array}{r}
 7 \\
 8 \\
 \hline
 188
 \end{array}
 \begin{array}{r}
 9 \\
 10 \\
 \hline
 103
 \end{array}
 \begin{array}{r}
 11 \\
 12 \\
 \hline
 48
 \end{array}$$

Well No. 5VP-4

NTU - nephelometric turbidity unit

Project: ROOSEVELT
Monitoring Well No.: SWP-10
Sampling Zone No(s): 1-10

Project: ROOSEVELT

Monitoring Well No.: SVP-10

Sampling Zone No(s):: 1-10

Date:

Start Time:

End Time:

Operators:

[illegible]

Additional Comments: (pH, turbidity, S.C., etc.)

Additional Comments: (pH, turbidity, S.C., etc.)

$A(\text{annule}) = 0.3 \pi r^2$

$\phi_{\text{well}} = 32.15 \text{ ft Toc} (2'')$

Well No. SVP-10

Acronyms:

mg/L - milligrams per Liter

mS/cm - milli-Siemens per centimeter

NTU - nephelometric turbidity unit

**OLD ROOSEVELT FIELD MALL
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD**

DATE: *March 26, 2013*

SAMPLERS: *MSR*

WEATHER CONDITIONS: *Sunny & Windy*
SAMPLE ID: *MW-II/RA01-2013*

CLP ID: *NA*

WELL #: *MW-1I*

DEPTH OF PUMP INTAKE: *~300*

SCREENED/OPEN BOREHOLE INTERVAL
SAMPLE TIME: *930* SAMPLE FLOW RATE:

ft TIC or ft BGS (circle one)

305-315'

ft TIC or ft BGS (circle one)

ml/minute

Instrument Type/Model:
Complete and/or Circle at right

YSI Model # *5866* Horiba U-22
Other (specify)

Instrument:
LA-70 DE

CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY
	gallons / liters (circle one)	ft TIC / ft BGS (circle one) Units: ft bgs or TIC (circle one)	Units: ml/min	ft TIC / ft BGS (circle one)	(± 0.1 SU)	S/cm, mS/cm ² or μS/cm (circle one)	mg/L (not %)	Units: °C	(± 10 mV)	(± 10%)
<i>930</i>	<i>1.0</i>	<i>27.71</i>	<i>300</i>		<i>5.64</i>	<i>0.164</i>	<i>1.80</i>	<i>15.41</i>	<i>191.2</i>	<i>1.34</i>
<i>910</i>		<i>27.95</i>	<i>300</i>		<i>5.47</i>	<i>0.193</i>	<i>1.18</i>	<i>14.94</i>	<i>197.2</i>	<i>0.94</i>
<i>915</i>		<i>28.09</i>	<i>300</i>		<i>5.30</i>	<i>0.203</i>	<i>1.01</i>	<i>14.26</i>	<i>206.3</i>	<i>0.55</i>
<i>920</i>		<i>28.10</i>	<i>300</i>		<i>5.30</i>	<i>0.205</i>	<i>1.01</i>	<i>14.21</i>	<i>205.4</i>	<i>0.47</i>
<i>923</i>		<i>28.11</i>	<i>300</i>		<i>5.29</i>	<i>0.205</i>	<i>0.98</i>	<i>14.11</i>	<i>204.2</i>	<i>0.57</i>
<i>930</i>	<i>Collected</i>	<i>Sample</i>								

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values

DO = 0.3 - 10 mg/L

Redox Potential = -100 - +600 mV

Turbidity = 0 - >500 NTUs

Spec: Conductivity (μS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 μS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

**OLD ROOSEVELT FIELD MALL
LOW FLOW GROUNDWATER SAMPLING PURGE RECORD**

DATE: MARCH 28, 2013

SAMPLERS: HOE

WEATHER CONDITIONS: Sunny & Mild

SAMPLE ID: MW-15/RA01-2013

CLP ID: NA

WELL #: MW-15

DEPTH OF PUMP INTAKE: ~225

ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL

ft TIC or ft BGS (circle one)

SAMPLE TIME: 1205 SAMPLE FLOW RATE: 280

ml/minute

Instrument Type/Model: Complete and/or Circle at right					YSI Model # <u>552</u> / Horiba U-22 (circle one) Other (specify)					Instrument:	
CURRENT TIME	VOLUME PURGED	DEPTH TO WATER	FLOW RATE	DRAWDOWN	pH	SPECIFIC CONDUCTIVITY	DISSOLVED OXYGEN	TEMP.	REDOX POTENTIAL	TURBIDITY	
	gallons / liters (circle one)	ft TIC / ft BGS (circle one) Units: ft bgs or TIC (circle one)	Units: <u>ml/min</u>	(± 0.3 FT)	(± 0.1 SU)	S/cm, (mS/cm) or µS/cm (circle one)	mg/L (not %)	Units: °C	(± 10 mV)	(± 10%)	
24-Hour				ft TIC / ft BGS (circle one)	SU				mV	NTUs	
<u>1100</u>	<u>Below Pump Intake</u>	<u>28.02</u>	<u>250</u>	<u>ml/min</u>	<u>6.09</u>	<u>0.118</u>	<u>6.21</u>	<u>15.57</u>	<u>171.4</u>	<u>7.17</u>	
<u>1110</u>		<u>28.04</u>	<u>250</u>		<u>6.09</u>	<u>0.183</u>	<u>5.83</u>	<u>14.78</u>	<u>167.0</u>	<u>9.63</u>	
<u>1120</u>		<u>28.04</u>	<u>250</u>		<u>6.08</u>	<u>0.203</u>	<u>5.57</u>	<u>15.37</u>	<u>153.5</u>	<u>8.69</u>	
<u>1130</u>		<u>28.05</u>	<u>250</u>		<u>6.06</u>	<u>0.224</u>	<u>5.87</u>	<u>15.16</u>	<u>139.9</u>	<u>9.46</u>	
<u>1150</u>		<u>28.08</u>	<u>250</u>		<u>6.11</u>	<u>0.231</u>	<u>5.71</u>	<u>14.95</u>	<u>142.5</u>	<u>10.30</u>	
<u>1200</u>		<u>28.08</u>	<u>250</u>		<u>6.12</u>	<u>0.233</u>	<u>6.03</u>	<u>14.07</u>	<u>141.0</u>	<u>9.95</u>	
<u>1205</u>	<u>Collect Sample</u>										

Drawdown is not to exceed 0.3 feet. Flow rate should not exceed 500 ml/min during purging or 250 ml/min during sampling. Readings should be taken every three to five minutes. The well is considered stabilized and ready for sampling when the indicator parameters have stabilized for three consecutive readings by the measurements indicated in parenthesis.

Typical values

DO = 0.3 - 10 mg/L

Redox Potential = -100 - +600 mV

Turbidity = 0 - >500 NTUs

Spec. Conductivity (µS/cm) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 µS/cm = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

$P_{10} = 0.994$
 $Q_{10} =$

WELL #: G6X-1DD19

DEPTH OF PUMP INTAKE: ~ 220

DEPTH OF PUMP INTAKE: ~ 220' 223'-225' ft TIC or ft BGS (circle one)

SCREENED/OPEN BOREHOLE INTERVAL ft TIC or ft BGS (circle one)

SAMPLE TIME: 6.528 SAMPLE FLOW RATE: 200 to 250 ml/minute

Instrument Type/Model:
Complete and/or Circle at right

YSI Model # 556 / Horiba U-22 (circle one)
Other (specify) _____

Typical values

DO = 0.3 - 10 mg/L

Redox Potential = -100 - +600 mV

Turbidity = 0 - >500 NTUs

Spec. Conductivity ($\mu\text{S}/\text{cm}$) = 0.01 - 5,000; up to 10,000 in industrial, ~55,000 in high salt content water. Note: 1,000 $\mu\text{S}/\text{cm}$ = 1 mS/cm

TIC = Top of Inner Casing BGS = Below Ground Surface

ATTACHMENT 6
CHAIN-OF-CUSTODY DOCUMENTS

DateShipped: 3/27/2013

Old Roosevelt Field

Lab: DESA

CarrierName: FedEx

Lab Contact: John Birn

Airbill No: 801390789914

Cooler #: 1 of 1

Lab Phone: (732) 906-6886

Organic Sample #	Matrix/Sampler	Coll. Method	Analysis/Turnaround	Tag/Preservative/Bottles	Station Location	Collected	Inorganic Sample #	Sample Type
BA321	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1211 (HCl) (3)	GMX-10019/RAQ1-2013	03/27/2013 15:25		Field Sample
BA324	Blank/ Michael Ehnott	Grab	TCL TVOC(7)	1214 (HCl) (3)	FB-032713	03/27/2013 09:00		Field Blank
BA326	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1216 (HCl) (3)	SVP-10-1/RAQ1-2013	03/27/2013 12:45		Field Sample
BA327	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1217 (HCl) (3)	SVP-10-2/RAQ1-2013	03/27/2013 13:00		Field Sample
BA328	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1218 (HCl) (3)	SVP-10-3/RAQ1-2013	03/27/2013 13:12		Field Sample
BA329	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1219 (HCl) (3)	SVP-10-4/RAQ1-2013	03/27/2013 13:23		Field Sample
BA330	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1220 (HCl) (3)	SVP-104-5/RAQ1-2013	03/27/2013 11:05		Field Duplicate
BA331	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1221 (HCl) (3)	SVP-10-5/RAQ1-2013	03/27/2013 13:37		Field Sample
BA332	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1222 (HCl) (3)	SVP-10-6/RAQ1-2013	03/27/2013 13:47		Field Sample
BA333	Groundwater/ Michael Ehnott	Grab	TCL TVOC(7)	1223 (HCl) (3)	SVP-10-7/RAQ1-2013	03/27/2013 13:57		Field Sample

Special Instructions: Please disregard tag numbers/letters.

Shipment for Case Complete? Y

[illegible]

Analysis Key: TCL TVOC=TCL Trace VOCs

[illegible]

DateShipped: 3/27/2013

Old Roosevelt Field

Lab: DESA

CarrierName: FedEx

Lab Contact: John Birn

AirbillNo: 801390789914

Cooler #: 1 of 1

Lab Phone: (732) 906-6886

[illegible]

Special Instructions: Please disregard tag numbers/letters.

Shipment for Case Complete? Y

Samples Transferred From Chain of Custody #

Analysis Key: TCL TVOC=TCL Trace VOCs

[illegible]

DateShipped: 3/28/2013

CarrierName: FedEx

AirbillNo: 801390789877

Old Roosevelt Field

Cooler #: 1 of 1

Lab: DESA

Lab Contact: John Birri

Lab Phone: (732) 906-6886

[illegible]

Special Instructions: Please disregard tag numbers/letters.

Shipment for Case Complete? Y

[illegible]

Analysis Key: TCL TVOC=TCL Trace VOCs

[illegible]

ATTACHMENT 7
PHOTOGRAPHIC LOG

PHOTOLOG

SITE NAME: Old Roosevelt Field

CAMERA # Kodak Easy Share C913

[illegible]



Photo 1: Water IDW Tank Removal



Photo 2: Removing RCA & Fabric (View West)



Photo 3: Compacting Roadway (View South)



Photo 4: Roadway to well Pad (View West)



Photo 5: Compacted Roadway (View East)



Photo 6: Topsoil Delivery



Photo 7: Grading Topsoil



Photo 8: Raking Topsoil



Photo 9: Southern Extraction Wells (View West)



Photo 10: Roadway Completion (View West)